National Institute of Environmental Health Sciences

Deforestation and avian infectious diseases

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Abstract:

In this time of unprecedented global change, infectious diseases will impact humans and wildlife in novel and unknown ways. Climate change, the introduction of invasive species, urbanization, agricultural practices and the loss of biodiversity have all been implicated in increasing the spread of infectious pathogens. In many regards, deforestation supersedes these other global events in terms of its immediate potential global effects in both tropical and temperate regions. The effects of deforestation on the spread of pathogens in birds are largely unknown. Birds harbor many of the same types of pathogens as humans and in addition can spread infectious agents to humans and other wildlife. It is thought that avifauna have gone extinct due to infectious diseases and many are presently threatened, especially endemic island birds. It is clear that habitat degradation can pose a direct threat to many bird species but it is uncertain how these alterations will affect disease transmission and susceptibility to disease. The migration and dispersal of birds can also change with habitat degradation, and thus expose populations to novel pathogens. Some recent work has shown that the results of landscape transformation can have confounding effects on avian malaria, other haemosporidian parasites and viruses. Now with advances in many technologies, including mathematical and computer modeling, genomics and satellite tracking, scientists have tools to further research the disease ecology of deforestation. This research will be imperative to help predict and prevent outbreaks that could affect avifauna, humans and other wildlife worldwide.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2829318

Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes

Geographic Feature:

resource focuses on specific type of geography

Other Geographical Feature

Other Geographical Feature : Forest

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Zoonotic Disease

Zoonotic Disease: Other Zoonotic Disease

Zoonotic Disease (other): avian infectious diseases

Intervention: ☑

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Methodology

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified